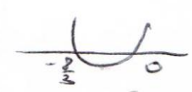


1.98
4

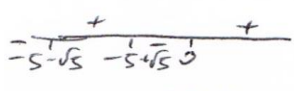
$$\log_{5+x}(x^3 + 10x^2 + 20x) \cdot \log_3(x+5) \leq \log_3(3x^2 + 8x)$$

$x > 0$
 $x < -\frac{2}{3}$



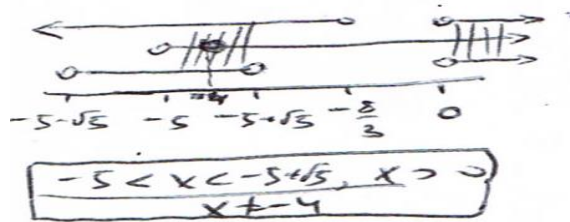
$3x^2 + 8x > 0$
 $x(3x+8) > 0$
 $-4 < x < -5$

$x^3 + 10x^2 + 20x > 0$
 $x(x^2 + 10x + 20) > 0$



$x > 0$
 $-5 - \sqrt{5} < x < -5 + \sqrt{5}$

$x^2 + 10x + 20 = 0$
 $x = \frac{-10 \pm \sqrt{20}}{2} = -5 \pm \sqrt{5}$



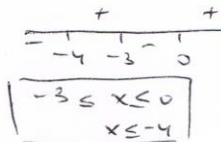
$$\frac{\log(x^3 + 10x^2 + 20x)}{\log(5+x)} \cdot \frac{\log(x+5)}{\log 3} \leq \log_3(3x^2 + 8x)$$

$$\log_3(x^3 + 10x^2 + 20x) \leq \log_3(3x^2 + 8x)$$

$$x^3 + 10x^2 + 20x \leq 3x^2 + 8x$$

$$x^3 + 7x^2 + 12x \leq 0$$

$$x(x^2 + 7x + 12) \leq 0$$



סעיף חמישי, חלק א' תשובה: הבעיה היא

$-5 \leq x < -4$
 $-3 \leq x < -5 + \sqrt{5}$